

ARCADIS GERAGHTY & MILLER



Steven M. Scharf, P.E.
Project Engineer
New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, Room 242
50 Wolf Road
Albany, NY 12233-7010

ARCADIS Geraghty & Miller, Inc.
88 Duryea Road
Melville
New York 11747
Tel 516 249 7600
Fax 516 249 7610

ENVIRONMENTAL

Subject:
Response to NYSDEC comments on Northrop Grumman and NWIRP draft
Feasibility Study, Northrop Grumman Corporation, Bethpage, New York.
ARCADIS Geraghty & Miller Project No. NY000008.0151.00007

Melville,
2 August 1999

Dear Mr. Scharf:

Contact:
Robert Porsche

ARCADIS Geraghty & Miller has reviewed comments issued by the New York State Department of Environmental Conservation (NYSDEC) on the Feasibility Study (FS) prepared for the Northrop Grumman Corporation (NGC) and Naval Weapons Industrial Reserve Plant (NWIRP) sites located in Bethpage, New York. In accordance with our conference call of June 17, 1999, ARCADIS Geraghty & Miller has completed revisions to the text of the FS. The revised draft text of the FS is attached with changes shown in revision format. Figures and tables are currently undergoing revisions and will be submitted as part of the final FS. For the reasons described below, ARCADIS Geraghty & Miller has not incorporated revisions addressing Comments 1, 15, 17, 18, 26, 27, 28, 30 and 31 into the revised FS.

Extension:
516.391.5233

Comments 1, 15, and 17

ARCADIS Geraghty & Miller has incorporated the revisions requested in comment 1 in Section 1.4.4. However, ARCADIS Geraghty & Miller does not believe that the mention of the South Farmingdale wells as municipal wells that could be affected by the off-site plume is appropriate for the discussion presented in Section 1.5.3.2 (Groundwater Modeling). This section of the text discusses the modeling performed for the FS, and does not specifically discuss impacts to downgradient receptors.

Comments 15 and 17 again request the mention of the South Farmingdale wells as potentially at risk from the Northrop Grumman/NWIRP plume. Where appropriate, such text has been incorporated in the FS. In addition, the Hydraulic and Groundwater Quality Monitoring Plan currently under review by the NYSDEC will be appended to the FS in draft form. This document outlines NGC's plans for monitoring the performance of the selected remedy, and should be considered a "living document". As such, it will be revised as conditions change during the life cycle of the

remedial system. In accordance with our conference call, the FS will not incorporate a well head treatment contingency for the South Farmingdale wells.

Comments 3, and 16

A response to comments 3 and 16 was prepared by the US Navy, and has been attached to this letter.

Comments 18, 28 and 30

Comments 18 and 28 request the incorporation of a table into the FS summarizing the time required under each remedial alternative to achieve MCLs. The initial conditions utilized in the solute transport modeling were based upon total volatile organic compound concentrations, rather than concentrations of specific compounds, therefore, these comments cannot be addressed, because the existing model output cannot supply the information requested. Development of the information necessary for such a discussion would require multiple (5 or more) compound specific model runs for each remedial alternative (8) resulting in 40 or more new modeling runs (approximately 4 times the modeling effort already completed for the draft FS document). Considering the substantial time frame for such an undertaking, this is not feasible with the current FS schedule.

Likewise, it is not possible for ARCADIS Geraghty & Miller to supply the information requested in Comment 30. Tables B-4 and B-5 summarize Simulated Peak Influent Concentrations of TVOCs in Wells during 30 years of Groundwater Remediation, and Simulated Concentrations of TVOCs in Wells after 30 years of Groundwater Remediation, respectively. These tables were provided only to facilitate a comparative analysis of the various remedial alternatives presented in the FS and not to precisely predict future contaminant concentrations.

Comments 26, 27 and 31

After careful consideration of the NYSDEC's Comments 26, 27, and 31, ARCADIS Geraghty & Miller offers the following response. The comments suggest that "additional protection of human health" is provided by the HN-24 and GM-38D2 treatment alternatives. Based on this supposition, Comment 31 requests the removal of the word "equal" in describing the effectiveness of the various remedial alternatives. Human health is only at risk when a complete contaminant exposure pathway exists. Protection of human health is accomplished by eliminating the exposure pathway (i.e., removing the potential for the contaminant to reach the human, whether it be by inhalation, ingestion, or absorption). In the case of customers of the BWD, the pathway is eliminated by providing well head treatment for the removal of TVOCs from the water distributed to the community. Since no

exposure pathway exists, there can be no impact to human health (i.e., TVOCs have been removed from the water supplied by the BWD, therefore, there is no risk of the consumer being exposed to TVOCs in the water supply.) The statement made in the draft FS, "there are no current and/or future (30 year scenario) exposures to site related VOCs for downgradient public water supply users", reflects this situation.

Under this situation HN-24 and GM-38D2 treatment alternatives do not provide additional protection of human health but do reduce contaminant mass. Reductions in contaminant mass, and the time frame to achieve MCLs (Comment 26a) are separate evaluation criteria, and are addressed in the FS sections entitled, "Reduction of Toxicity, Mobility and Volume", and, "Short Term Effectiveness" (see Section 4 and 5 of the FS); no comments were submitted for either of these sections. With respect to Comment 26b, although it may be intuitive that "hot-spot" treatment will reduce contaminant mass in the aquifer, and therefore provide the benefit of reducing mass to be treated by the ONCT remedial and BWD treatment systems, such "hot-spot" treatment does not afford the public any additional protection beyond that already provided by the ONCT and BWD treatment systems. Once the exposure pathway(s) has been eliminated, there is no longer a risk to human health. The same argument applies to the use of OFCT 6, located upgradient of BWD-5 (Comment 27). BWD customers whose water is supplied in whole or in part by BWD-5 are protected from TVOCs present in the groundwater. Since they are not at risk from site related TVOCs, they cannot be less at risk if OFCT 6 is utilized.

Steven M. Scharf, P.E.
2 August 1999

ARCADIS GERAGHTY & MILLER

It is ARCADIS Geraghty & Miller's opinion that the installation of redundant and/or additional remedial systems does not afford the public additional human health protection. Therefore, ARCADIS Geraghty & Miller respectfully requests that the NYSDEC reconsider their request that the discussion of Protection of Human Health be revised and not require the statement that decreases in contaminant mass, or the installation of supplemental systems provide increased protection of human health.

If you have any comments or questions, please do not hesitate to call.

Sincerely,

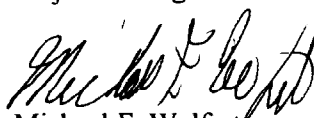
ARCADIS Geraghty & Miller, Inc.



Robert Porsche
Project Scientist



Carlo San Giovanni
Project Manager



Michael F. Wolfert
Project Director

Copies:

John Cofman, Northrop Grumman Corporation
Jim Colter, US Navy